

ORIGINAL ARTICLE

Cultural Competency of Medical Students: An Asian ContextKavitha A Kumar¹, Ashok Kumar Jeppu², Nirmala Devi³, Fazna Saleem¹, Sohayla M Attalla⁴, Mahfuza Aktar⁵¹ Department of ORL, International Medical School, Management & Science University, Malaysia.² Department of Biochemistry International Medical School, Management & Science University, Malaysia.³ Faculty of Social Sciences and Educational Studies, Management & Science University, Malaysia.⁴ Department of Forensic Medicine, International Medical School, Management & Science University, Malaysia.⁵ Department of Paediatrics, International Medical School, Management & Science University, Malaysia**ABSTRACT**

Introduction: People of different cultures perceive health and disease differently. A culturally competent healthcare team is needed to provide quality healthcare. In Asian medical schools, less emphasis is laid on cultural competency training. In this context, the study aims to assess the cultural competency of medical students in Malaysia and to fathom the demographic factors influencing it. **Methods:** A cross sectional survey was conducted on students from all five years of a Malaysian medical school using an adapted version of Clinical Cultural Competency Questionnaire (CCCQ) to tap the self-perceived knowledge, skills, comfort level in cross-cultural encounters and attitude towards cultural competency. Descriptive and inferential statistics was used to analyse the data. **Results:** Among the 291 respondents, the cultural competency was found to be significantly different among medical students of different year of study, age, and ethnicity. However, with regards to gender, country of birth or the number of languages spoken, the difference was insignificant. The clinical year students had significantly higher scores on the knowledge, skills, comfort level and attitude domains of cultural competency when compared to the preclinical students. Chinese students' perception on cultural competence was significantly distinct from Indian and Malay students. **Conclusion:** Exposure to cross cultural encounters in clinical settings and personal experiences seem to influence cultural competency of the medical students. It provides valuable data to plan for interventions, training and self-development strategies aimed at providing culturally attuned patient centred care.

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INTRODUCTION

Culture is defined as “ the learned, shared, transmitted values, beliefs, norms and lifeways of a particular group of individuals that guide thinking, decisions and actions in patterned ways that are often trans-generational” (1). The diversity in culture encompasses age, gender, sexual orientation, religion as well as the socioeconomic status (2) According to Betancourt, culture shapes the lens through which we see and understand the world. It can therefore have an influence on an individual's acceptance of different treatment options (3,4). Recognizing the importance of culture in planning healthcare intervention is more relevant today, as the world has been reduced to a global village with people from multicultural background who perceive health and disease differently (5). This changing scenario brings

to the healthcare providers ample opportunities for professional growth as well as challenges in providing quality care. Proper communication between the provider and the patient is crucial as it translates into patient satisfaction, compliance to treatment and finally to health outcomes which in turn makes healthcare more cost effective and efficient (6) On the other hand, poor health outcomes usually result if the sociocultural disparities are not reconciled during the clinical encounters (7). Two contemporary reports from Institute of Medicine namely, ‘Crossing the Quality chasm’ and ‘Unequal treatment’ have highlighted the importance of cultural competency among healthcare workers for ensuring holistic patient-centred care (8)

Cultural competence in healthcare is aptly defined as the ability of healthcare provider to provide quality care which meet the social, linguistic and cultural needs of the population while eliminating any ethnic or racial disparities regarding health (9). It forms a critical part of “professionalism” as well as “interpersonal and communication skills” which are some of the core

competencies required in an affable and adept doctor (10). These attributes are anticipated in all medical graduates by accreditation bodies world-wide and steps have been taken to address this issue (10-13). The academia in the western countries too has made robust strides in this direction (2,14). This felt need has not yet been expressed in Asian countries. Educators in these countries with admixture of multicultural population, largely assume that students would be able to extrapolate their knowledge on cultural values, beliefs and practices to various situations they may encounter in clinical practice. Among Asian countries, Malaysia has a distinctive multiracial, multicultural population. According to the 2021 census, the Malaysian population has been estimated to be 32.7 million. The main ethnic groups being Malay (69.1%), Chinese (23%), Indians (6.9%) and others (1%). In addition, there are about 2 million immigrants who add to the cultural diversity (15). It is therefore imperative that the medical graduates in Malaysia must possess the necessary skills to appropriately deliver quality care to the diverse patient population. Hence, this study is aimed to assess the medical students' perspective about their own competency to work with patients as well as healthcare workers of diverse cultural background.

MATERIALS AND METHODS

Study setting and population

This study was conducted on the undergraduate students of the 2020 cohort of a medical school in Malaysia which follows an outcome-based curriculum spread over five years. In the first two years, students are taught in the university campus (preclinical years) followed by three years of training mainly in the hospital (clinical years). The students do not undergo formal training in cultural competency. However, it is woven throughout the curriculum through various experiences in the hospital.

Research approach, design and data collection

A quantitative research method was used to achieve the objectives of this study. A cross sectional study design using a questionnaire was employed to collect data from all the medical students as it was economical and feasible. This web-based survey was conducted between April 2020 and December 2020.

Research instrument

The Clinical Cultural Competency Questionnaire (CCCQ) which was used by previous studies to measure the cultural competency of medical students, was adapted, and employed in the present study (6,16-18). The instrument had two sections with the first section focusing on the demographic profile of the respondents while, the second section had forty-eight items covering four domains of cultural competency. The domains were (i) knowledge about culturally diverse patient population (14 items), (ii) skills in dealing with sociocultural issues in patient care (14 items), (iii) comfort level while tending

to culturally diverse patient population (12 items) and (iv) attitude (8 items). The attitude domain had four items enquiring on the importance of sociocultural issues in interactions at workplace and another four items regarding their own cultural prejudices. Each of these items was anchored on a 5-point scale (1= Not at all, 2=Little, 3=Somewhat, 4=A bit and 5=Likely) to record the perception of the respondents. The questionnaire was pilot tested on a sample of 30 students and minor modifications were made to suit the local context as well as to avoid ambiguity in language.

Ethical consideration

The ethical approval for this research was obtained from the University Ethical Committee of Management and Science University (MSU-RMC-02/FR01/07/L1/011). All the respondents were explained the objectives of the research, assured regarding their anonymity, the confidentiality of the collected data and an informed consent was sought prior to answering the survey. Their participation in this survey was completely voluntary.

Data Analysis

The collected data was screened for missing values, outliers, and invalid entries. It was analyzed with descriptive and inferential statistics using statistical package for social sciences software (SPSS) version 26. The data of the present study was normally distributed with the calculated skewness and kurtosis between -2 and +2 (19). Exploratory factor analysis using principal component analysis (PCA) extraction method with Varimax rotation was employed for data reduction and to ascertain the factor structure. The calculated Kaiser-Meyer-Olkin (KMO) measure was 0.92 assuring the adequacy of sample as it was above the recommended value of 0.7 and the Barret's test of sphericity reached statistical significance (20). The PCA extracted four factors or constructs after removal of ten items with loadings less than 0.5 after 6 iterations from further analysis. To validate the questionnaire for the current context, reliability analysis using Cronbach's alpha and composite reliability was done. Table I shows the reliability measures of the instrument used. The reliability analysis of all factors and of the whole instrument was above the threshold of 0.7 suggesting good internal consistency and construct reliability of the instrument (21,22). Independent sample Student t test and One way ANOVA were utilized to compare the mean scores on the four domains of cultural competency between the groups based on the demographic profile of the sample. For all analyses performed, a value of p<0.05 was considered statistically significant.

Table I: Reliability measures of the constructs of cultural competency

Reliability analysis	Knowledge	Skill	Comfort level	Attitude	Overall
Cronbach's alpha	0.928	0.944	0.873	0.862	0.947
Composite reliability	0.924	0.946	0.869	0.864	0.950

RESULTS

A total of 291 medical students from the total study population of 741 participated in this study with a response rate of 38.8%.

Respondent characteristics

The distribution of the study population is depicted in Table II. Majority of the participants of the study, were from preclinical years (48.8%) when compared to clinical years (32.8%). All the students were in the age group of 18 to 24 years with 26.8% males and 73.2% females. Among them, 48.5% identified themselves as Malays, 33.3% as Indian, 9.3% as Chinese, 2.4% as mixed ethnicity while 6.5% as others. Majority of the respondents (92.4%) were born in Malaysia whereas a small number of respondents (6.9%) claimed to be born in other Asian countries and 0.7% were born in countries outside Asia. A vast majority of the participants were multilingual with 11.7 % able to communicate in one language other than English, 42.3 % spoke two languages besides English while 38.5% and 7.6% were confident in speaking three and more than three languages apart from English respectively.

Descriptive statistics on the constructs of cultural competency

The mean value and standard deviation of the scores on each item of the questionnaire is shown in Table III. The medical students in the current study perceived their knowledge, skills, comfort level and attitude positively

Table II: Demographic profile of the sample

Category	Year					Frequency with percentage
	1	2	3	4	5	
Age						
18-20 yrs	53	51	02	02	0	108 (37.1%)
>20-22yrs	15	17	23	25	0	80 (27.5%)
>22-24yrs	09	0	10	41	42	102(35.4%)
Ethnicity						
Malays	38	29	18	32	24	141(48.5%)
Chinese	03	16	04	04	0	27(9.3%)
Indian	20	21	12	28	16	97(33.3%)
Mixed	03	01	01	02	0	07(2.4%)
Others	13	02	0	02	02	19(6.5%)
Gender						
Male	23	10	08	22	15	78(26.8%)
Female	54	59	27	46	27	213(73.2%)
Country of birth						
Malaysia	64	63	35	66	41	269(92.4%)
Asian country	12	05	0	02	01	20(6.9%)
Others	01	01	0	0	0	02(0.7%)
No. of languages spoken in addition to English						
One	11	02	05	10	06	34(11.7%)
Two	35	24	15	31	18	123(42.3%)
Three	26	34	14	23	15	112(38.5%)
>Three	05	09	01	04	03	22(7.6%)
History of travel to other countries in the last three years						
Yes	45	44	19	41	23	172(59.1%)
No	32	25	16	27	19	119(40.89%)
Total	77	69	35	68	42	291(100%)

with the mean scores ranging from 2.780 to 3.993 for the various items of the questionnaire.

The mean score in the four domains of cultural competency was compared between the groups based on the demographic profile of the respondents to understand how the demographic characteristics of the sample affected their self-perception on cultural competency and is depicted in Table IV.

With respect to gender, the results revealed that male students scored more on all four domains of cultural competency; though the difference was not statistically significant. On the other hand, a significant difference was noted in the domains of knowledge and skills with age of the students. On further statistical analysis using Bonferroni test, it was noted that students in the age group of 18-20 years perceived their knowledge, skills and attitude to handle cross cultural encounters as lesser than the students belonging to the >22 to 24-years age group. However, no significant difference in their comfort level during cross cultural interactions was noted. This finding posits that the comfort level of students in cross-cultural settings did not change with age and medical school training. Further, the comparison of mean scores between students of different ethnicity showed a significant difference in the domains of knowledge and comfort level. Further exploration using Bonferroni test, revealed that there was a statistically significant difference in knowledge domain between Malay and Chinese students with a mean difference (MD=0.425, p=0.011) at 95% confidence interval (LB=.059, UB=0.791). Similarly, a significant difference was observed between Indian and Chinese students (MD=0.434, p=0.013) at 95% confidence interval (LB=.055, UB=0.813).

A statistically significant difference was also observed in all four domains of cultural competency with the year of study of medical students. On further statistical analysis using Bonferroni test, it was noted that the first-year students scored significantly lower than final year students in the domain of knowledge only; with (MD=-0.368, p=0.014) at 95% confidence interval (LB=-.692, UB=-0.044). Whereas, the perceived knowledge (MD=-0.576, p<0.01), skills (MD=-0.518, p=0.04), comfort level MD=-0.373, p=0.015) as well as attitude MD=-0.352, p=0.04) of second-year students was significantly lesser than their seniors in the medical school. The country of birth, history of recent travel or the number of languages spoken by the students did not provide a statistically significant difference (p>0.05) on any of the domains of cultural competency studied.

DISCUSSION

The medical graduates form a vital part of the health care system. In addition to acquiring the knowledge as well as skills to practice medicine, they are committed

Table III: The factor loadings and mean values of the item scores for the constructs of cultural competency

Items	Factor loading on constructs				Mean	SD
	Knowledge	Skills	Comfort level	Attitude		
1.How knowledgeable are you about sociocultural issues in reproductive health?	.831				3.533	0.856
2.How knowledgeable are you about sociocultural issues in adult health?	.825				3.498	0.811
3.How knowledgeable are you about sociocultural issues in women’s health?	.808				3.529	0.868
4.How knowledgeable are you about sociocultural issues in adolescent health?	.801				3.478	0.840
5.How knowledgeable are you about sociocultural issues in geriatric health?	.736				3.351	0.933
6.How knowledgeable are you about sociocultural issues in disease prevention?	.730				3.526	0.864
7.How knowledgeable are you about health risks of ethnic groups?	.534				3.381	0.82
8.How knowledgeable are you about health disparities of ethnic groups?	.506				3.227	0.861
9.How knowledgeable are you about different healing traditions of ethnic groups?	.505				2.780	1.027
10.How skilled are you in providing culturally sensitive preventive services?		.841			3.093	1.025
11.How skilled are you in providing culturally sensitive end of life care?		.807			2.900	1.027
12. How skilled are you in providing culturally sensitive patient education?		.783			3.137	0.987
13.How skilled are you in dealing with cross cultural conflicts relating to diagnosis and treatment?		.781			3.127	0.951
14.How skilled are you in dealing with cross cultural ethical issues?		.775			2.983	1.035
15.How skilled are you in dealing with cross cultural compliance problems?		.770			2.993	1.014
16.How skilled are you in prescribing a culturally sensitive treatment plan?		.747			3.034	1.047
17.How skilled are you in performing culturally sensitive physical examination?		.745			3.076	1.051
18. How skilled are you in assessing health literacy?		.743			3.127	0.951
19. How skilled are you in apologizing for cross cultural misunderstandings and error?		.588			3.474	1.035
20.How skilled are you in getting information about alternative therapists?		.565			3.268	0.900
21.How skilled are you in getting patient’s perspective about alternative therapies?		.527			3.381	0.952
22. How comfortable you feel being sensitive to nonverbal clues?			.757		3.412	0.884
23. How comfortable you feel caring for patients with different cultural expressions of pain?			.746		3.399	0.946
24. How comfortable you feel speaking to patients in an indirect way?			.665		3.330	0.976
25. How comfortable you feel caring for patients who insist on seeing folk healers?			.661		3.529	0.922
26. How comfortable you feel working with healthcare workers from culturally diverse background?			.644		3.732	0.956
27. How comfortable you feel identifying beliefs which may interfere with treatment?			.634		3.289	0.950
28. How comfortable you feel breaking bad news to patient’s family first if it is culturally more appropriate?			.575		3.124	1.020
29. How comfortable you feel advising a patient to change behaviours that impair one’s health?			.566		3.261	0.954
30 How comfortable you feel treating patients who make derogatory comments about your ethnic background?			.541		3.179	1.078
31. How comfortable you feel caring for patients with limited Bahasa proficiency?			.511		3.900	0.883
32. How important do you believe sociocultural issues are in your interactions with healthcare colleagues?				.837	3.993	0.940
33. How important do you believe sociocultural issues are in your interactions with staff?				.837	3.945	0.931
34. How important do you believe sociocultural issues are in your interactions with students?				.829	3.993	0.936
35. How aware are you of your own racial or cultural identity?				.663	3.952	0.920
36. How important do you believe sociocultural issues are in your interactions with patients?				.655	3.863	0.990
37.How aware are you of your own bias and prejudices?				.542	3.790	0.955

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 6 iterations.

Table IV: Comparison of the domains of cultural competency between different groups based on the demographic profile of the study population

Demographic		Knowledge Mean (SD)	Skills Mean (SD)	Comfort level Mean (SD)	Attitude Mean (SD)
Overall		3.33 (0.62)	3.20 (0.75)	3.44 (0.61)	3.85 (0.63)
Gender †	Male	3.41(0.68)	3.34(0.69)	3.54(0.54)	3.88(0.63)
	Female	3.30(0.60)	3.15(0.76)	3.40(0.63)	3.84(0.63)
	<i>t value (p value)</i>	<i>1.309(>0.05)</i>	<i>1.897 (0.05)</i>	<i>1.775(>0.05)</i>	<i>0.563(>0.05)</i>
Age (Years)‡	18-20	3.13(0.67)	3.09(0.84)	3.38(0.64)	3.75(0.58)
	>20-22	3.34(0.54)	3.15(0.72)	3.43(0.56)	3.85(0.64)
	>22-24	3.52(0.56)	3.36(0.65)	3.51(0.62)	3.96(0.65)
	<i>F value (p value)</i>	<i>11.309*(<0.01)</i>	<i>3.845*(<0.05)</i>	<i>1.16(>0.05)</i>	<i>2.975(>0.05)</i>
Ethnicity‡	Malays	3.36(0.63)	3.19(0.78)	3.41(0.59)	3.86(0.64)
	Chinese	2.94(0.51)	3.00(0.49)	3.26(0.47)	3.75(0.51)
	Indians	3.37(0.61)	3.30(0.75)	3.45(0.64)	3.83(0.64)
	Mixed	3.65(0.25)	3.30(0.54)	3.88(0.40)	4.32(0.43)
	Others	3.28(0.63)	3.03(0.86)	3.70(0.72)	3.83(0.63)
	<i>F value (p value)</i>	<i>3.473*(<0.05)</i>	<i>1.160(> 0.05)</i>	<i>2.442*(<0.05)</i>	<i>1.140(> 0.05)</i>
Year of study ‡	Year 1	3.25(0.61)	3.12(0.89)	3.59(0.58)	3.73(0.64)
	Year 2	3.04(0.62)	2.95(0.74)	3.14(0.61)	3.71(0.59)
	Year 3	3.41(0.61)	3.27(0.57)	3.40(0.52)	3.81(0.58)
	Year 4	3.49(0.48)	3.34(0.54)	3.53(0.57)	4.01(0.59)
	Year 5	3.61(0.66)	3.46(0.78)	3.51(0.65)	4.06(0.66)
	<i>F value (p value)</i>	<i>8.278*(< 0.01)</i>	<i>4.312*(<0.05)</i>	<i>6.181*(<0.01)</i>	<i>4.025*(<0.05)</i>
No. of languages spoken other than English‡	One	3.38(0.58)	3.25(0.71)	3.41(0.59)	3.76(0.53)
	Two	3.34(0.67)	3.18(0.81)	3.45(0.64)	3.86(0.69)
	Three	3.36(0.54)	3.24(0.71)	3.43(0.59)	3.86(0.60)
	More than three	3.02(0.69)	3.0(0.67)	3.46(0.62)	3.36(0.54)
	<i>F value (p value)</i>	<i>1.976(>0.05)</i>	<i>0.717(>0.05)</i>	<i>0.051(>0.05)</i>	<i>0.279(>0.05)</i>

* Significance (2 -tailed) at $p<0.05$, †Independent sample t test used compare groups,

‡ One way ANOVA used to compare groups

as an individual and a team member to fulfil professional roles, in providing culturally attuned care (2). This study therefore focused to understand the medical students' perception of their own cultural competency using a validated instrument in the absence of formal training on cultural competency in the medical curriculum. The students belonging to all five years of medical school were included in the study as the researchers sought to understand the influence of the learning environment in shaping their cross-cultural competency. A response rate of 38% was obtained in this study which is comparable to earlier research on medical students (2,6). Majority of the respondents were preclinical students as they were more accessible at the medical school when compared to the students in the clinical years who were trained at the hospital. The amount of time available at the respondent's disposal may have a bearing on this observation (6). Among the respondents, females outnumbered the males. Females constitute a higher proportion of student population in Malaysian universities (24), and empirical studies conducted in medical schools have also documented such a female preponderance (13,14,23). An interesting observation of the present study was that males fared better than females on all four domains of cultural competency though, the difference with regards to gender was not statistically significant. A similar study conducted in Canadian medical school documented no significant difference in cultural competence between male and female medical students (6).

A significant difference was observed in knowledge and comfort level domains of cultural competency among medical students belonging to different ethnic groups in the present study which is contrary to the findings of previous studies where ethnicity of medical students had shown no effect on the cultural competency (6,17,25). The earlier studies were conducted in western universities where cultural competency was addressed in the curriculum and the students were assessed after their training on culture sensitive issues when compared to the students in the present study who were relatively naive which could explain for the contrasting results obtained. Besides, students hailing from ethnic minorities maybe negatively situated by peer social groups and cultural stereotypes which might have an influence on their attitude as well as behaviour (26).

This study also indicated that cultural competency significantly improves with age. Older students were more mature to appreciate the importance of the personal lives of patients and their beliefs for delivering quality healthcare (25). Besides, older students were more likely to be in higher levels of training in the medical school giving them more opportunities for interaction with patients, their families and other healthcare workers. Thereby, moulding their cultural competency. Nevertheless, there was no significant difference in the comfort level during cross cultural encounters among students of different age groups. Thereby, dealing with patients of other cultures especially, in critical situations

was similar irrespective of their age and training. This draws attention to areas where training in cultural competency is needed.

The year of study in the medical school had a bearing on all four domains of cultural competency with a statistically significant difference. The students in the final years of training scored better than the students in pre-clinical years. This observation was in accordance with the results of a similar study conducted at Harvard medical school (13). A surprising observation was that the second-year medical students scored lesser than the first-year students on all four domains. This finding could be attributed to the increased level of awareness among second-year students to the limitations in their knowledge as well as to the challenges involved in providing culturally sensitive care. While, the novice first-year students might have overestimated their cultural competency. Green et al., (2017) reported similar findings which they attributed to social desirability bias (13). Though differences in all four domains of cultural competency were observed among the third, fourth and fifth-year students, it was not statistically significant. Better scores on all four domains among clinical students may be attributed to exposure to patients and healthcare workers of diverse cultural background in clinical setting which provided students opportunities to be more well prepared for cross cultural encounters. According to situated learning theory, social interactions are vital for the learners to imbibe the behaviour expected from them (27). This theory explains how these encounters help students understand that culture plays an integral role in shaping the patients' values and beliefs related to health. Empirical researchers endorse that the informal interactions of students with faculty, healthcare staff, patients and their relatives has an influence on their perceptions about cross cultural care (13,28). Learning also tends to occur by observing clinician's interactions with patients and their families suggesting a massive impact of hidden curriculum. It is widely believed that the perception of an individual is built on direct as well as vicarious experiences and the judgements of others (29). Thereby, highlighting the ways in which clinicians as role models can influence a student's attitude and behaviour. This is explained by Bandura's social learning theory which posits that learning takes place by observation, imitation and modelling (30). In the hospital setup, clinical-year students learn about cultural influences on health through their interactions with others in social context (31).

Though the clinical-year medical students scored higher than preclinical students, there were areas where they didn't perceive themselves prepared well enough for cross cultural encounters. It was observed that even the final year students scored low on certain items like knowledge on 'different healing traditions among ethnic groups' and 'variation of drug response among ethnic groups. Similarly, they perceived their ability on certain

skills like 'dealing with cross-cultural compliance problems', 'dealing with cross cultural ethical issues' and 'providing a culturally sensitive end of life care' as limited. Likewise, relatively low scores were also observed on certain items exploring their comfort level during 'breaking the bad news to the family first than the patient if it is more culturally appropriate', and 'working with colleagues from culturally diverse background'. Additionally, the COVID-19 pandemic has brought about several constraints for interaction with healthcare workers and patients. This may pose serious hinderances to the development of cultural competency among medical students which necessitates formal training for students in cross cultural care. Previous studies on residents and medical students suggested that those with formal cultural competency training are better equipped to handle cross cultural issues prompting researchers to recommend incorporation of training for students with a uniform teaching framework in all medical schools to create awareness of the health disparities and equip them to cater to the healthcare needs of a culturally diverse population (12-14,32-34). With the world being reduced to a global village, the 21st century medical graduates even in Asian countries need to be aware about the global healthcare disparities and be trained to provide culturally attuned quality healthcare to all.

The medical students often view behavioural and social science content as less important when compared to the clinical content in the curriculum. This self-assessment with CCCQ helped to sensitize the students on their dearth in knowledge and skills with respect to providing care to culturally diverse patients. Though the medical curriculum is quite "loaded", cultural competency needs a place in the undergraduate curriculum. The results of this study elucidate at what point in the curriculum learning about cultural influences in healthcare occurs and the areas where there is deficiency in present training especially regarding alternative medicine and cultural customs in Malaysian medical schools. It also reveals the need for creating awareness of healthcare disparities among the preclinical medical students so that they are well-informed before being subjected to cross cultural encounters in the clinical settings. Especially in these challenging times of the pandemic with students having limited clinical exposure, cultural competency may need to be taught and emphasized. It may help curriculum designers and teachers to plan strategies to train future doctors on the cultural beliefs which regulate the behaviors of their patients to provide quality care to the community.

The authors acknowledge the presence of some limitations in this study. This study employed a cross sectional study design. Thereby, the development of cultural competency of students as they progressed through the five years of training was not captured. Besides, the inferences were drawn on the results of a self-administered questionnaire and would provide a

rough measure of their cultural competency. Further, it could be influenced by social desirability bias. The scores on the various domains of cultural competency with their real behaviour in clinical practice has not been investigated. In addition, the study was conducted in a single medical school in Malaysia which may limit the generalizability of the results.

For future study, a longitudinal study to observe the changes in the cultural competence of medical students over the five-year period of study would help to further understand the effect of curriculum in shaping their preparedness to provide care to culturally diverse population. Specifically, the significance of exposure to healthcare workers and patients of diverse cultural background and role modelling in the development of cultural competence needs to be further explored. Besides, a training for the trainers would be suggested to plan and implement the cultural competency training workshops for the students.

CONCLUSION

This study throws light on the level of cultural competency among medical students in Malaysia. A significant difference in cultural competency was observed with the age, year of study and ethnicity of medical students. Clinical year medical students perceived their knowledge, skills, comfort level and attitude to deal with cross cultural encounters better than preclinical year students. This reflects on the importance of exposure to diverse patient population in clinical settings and self-learning experiences in transforming a novice into a culturally attuned medical graduate. To achieve the goals of healthcare equity to all, action is needed from all healthcare sectors who deal with healthcare policy, education, and practice.

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